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Inhibition of phagocytic function of macrophages in vitro by dimer RNase of Bacillus intermedius

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Abstract

The interactions between rat peritoneal macrophage and Bacillus intermedius dimer RNase cross linked by dimethylsuberimidate was investigated in vitro. It has been found that dimer in the form of RNase at concentrations of 0.5-40μg/ml decreases the phagocytic function of macrophages. This is manifested as an inhibition of phagocytosis and suppression of the fusion of phagosomes with lysosomes in macrophages. Using atomic force microscopy, it is shown that the dimer RNase changes the surface structure of the cytoplasmic membrane more strongly than the monomer. The association between modifications of properties of the membrane and inhibition of the macrophage phagocytic function is discussed. © MAIK Nauka 2008.

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Keywords

Bacillus intermedius RNase, Cytoplasmic membrane, Peritoneal macrophage, Phagocytic function, RNase dimer